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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/755,702	01/12/2004	Michael Krebs	HENK-0154/H5344	3428
38857	7590	08/24/2007	EXAMINER	
WOODCOCK WASHBURN LLP CIRA CENTRE, 12TH FLOOR 2929 ARCH STREET PHILADELPHIA, PA 19104-2891			NILAND, PATRICK DENNIS	
			ART UNIT	PAPER NUMBER
			1714	
			MAIL DATE	DELIVERY MODE
			08/24/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

<b>Application No.</b> 10/755,702	<b>Applicant(s)</b> KREBS, MICHAEL	
<b>Examiner</b> Patrick D. Niland	<b>Art Unit</b> 1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1)  Responsive to communication(s) filed on 08 June 2007.
- 2a)  This action is FINAL.                      2b)  This action is non-final.
- 3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4)  Claim(s) 1, 2, 4-18, 21, 24 and 28-33 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5)  Claim(s) \_\_\_\_\_ is/are allowed.
- 6)  Claim(s) 1-2, 4-18, 21, 24, and 28-33 is/are rejected.
- 7)  Claim(s) \_\_\_\_\_ is/are objected to.
- 8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9)  The specification is objected to by the Examiner.
- 10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \*    c)  None of:
- Certified copies of the priority documents have been received.
  - Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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1. The amendment of 6/8/07 has been entered. Claims 1-2, 4-18, 21, 24, and 28-33 are pending.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-2, 4-18, 21, 24, and 28-33 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 00/05290 Bolte et al., translation supplied by applicant referenced.

Bolte discloses a polyurethane prepolymer made by the instantly claimed processes at page 5, lines 3-7 which falls within the scope of the instant claim 12 when combined with page 17, lines 1-15; page 6, lines 10-30, which encompasses the instantly claimed viscosities of claim 2 considering viscosity will go down as temperature goes up and considering the common molecular weights of the instant claims and the prior art noted below which is indicative of viscosity by definition of viscosity average molecular weight; page 7, lines 5-9 which is expected to give the parameter of the instant claim 2 inherently based on the definition of viscosity average molecular weight and the fact that the other requirements of claim 2 are met and lines 10-30; page 8, lines 1-30, particularly 21-30 which broadly encompasses the instantly claimed process of making a polyurethane with free isocyanate groups; page 9, lines 1-5, which

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encompasses the instantly claimed NCO:OH ratio and this stage of the method of the reference reads on the method steps of the instant claim 1, which are not prohibited from later reactions in other stages as is clear from the instant claims which later react the prepolymer with other components; page 10, lines 1-30, particularly 6-8, which encompasses the instantly claimed NCO:OH ratios, lines 9-30, which encompasses the instantly claimed diols and their molecular weights as do page 11, lines 1-30, particularly 6-10; page 12, lines 1-30, particularly 2-3; page 13, lines 1-30, particularly 1; page 14, lines 1-19, of which these polyols fall within those of the instant claims 1, 4, 10, 14-17, 21, 24, and 28-31 (note that the mixtures encompass the "additional" polyols or polymeric compounds of claims 21 and 24); page 14, lines 20-30; page 15, line 7, which discloses the instantly claimed diisocyanate with sufficient specificity so as to anticipate its use, which is particularly emphasized because it is also an assymetrical diisocyanate as is clearly preferred for use at lines 15-17 and 18-22; page 19, lines 22-27; page 20, lines 10-15 which falls within the scope of the NCO:OH ratios of the instant claims 1, 8, 18, 24, and 29-30, lines 17-30 which falls within the scope of the instant claims 11 and 21; page 21, lines 1-30 particularly 7-26 which falls within the scope of the instant claims 5-7, 9, and 21; page 25, lines 4-30 which encompasses the instantly claimed amounts of monomeric isocyanates also; page 26, lines 1-12 and 21-26; and the remainder of the document. The second stages disclosed throughout the above cited sections fall within the scope of the instant claims requiring further reaction of the prepolymer with further components including the instantly claimed NCO:OH ratios for these method steps. The above discussed parameters are the same as claim 1 and therefore must give the limitation of claim 13 and 32-33 inherently considering the molecular weights of the polyurethanes and their NCO content based on the ratios of polyols to

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polyisocyanates used. Applicant's argument regarding free NCO groups is noted but the reference teaches the preparation of prepolymers having NCO groups throughout the disclosure of Bolte, e.g. page 6, lines 17-21, page 7, lines 5, 10-16 and 23-30 with particular emphasis on lines 27-30; page 8, lines 1-2, particularly lines 21-25 noting "at least equimolar" as it is understood that an excess is required to give NCO terminal groups but too much excess will give too much free monomer, which Bolte clearly doesn't desire and the stoichiometry required of the paragraph bridging pages 7-8 indicates clearly that no or little free monomeric isocyanate should remain. It is noted that the instant claims recite no closed language and therefore include the additional steps of the reference. It is also noted that the claims of the 112 above, e.g. 19-20 and 23-24 appear to encompass further reacting the isocyanate terminated component with further active H groups which is the additional reaction step of Bolte. In any event, the intermediate product of Bolte which is the reaction product of polyisocyanates of the instant claims, polyol, the instantly claimed NCO:OH ratio and which has free NCO groups, i.e. prepolymer, falls within the scope of the instant claims as does the further reaction of this intermediate with further polyol. The remainder of the reference cited above further clarifies these points. The applicant's arguments are not commensurate in scope with the instant claims and the proper reading of the disclosure of Bolte.

"Consisting of" is noted in the instant claims. The instantly claimed product is not going to not be further processed. It is intended by the applicant to be further reacted, perhaps at a later time. Thus, "consisting of" cannot be taken as meaning that nothing is ever done to the product resulting from the claimed process ever. Note the first page of the applicant's specification, lines 8-11 for example. The reference performs the instantly claimed process steps in a manner

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consistent with the instantly claimed "consisting of" though they later perform other steps. The result of the process noted above is a "reactive polyurethane containing free isocyanate groups" as can be seen from the above cited sections. It is not seen that the reference requires two steps. The applicant's reference to page 5, lines 24-30 is noted but the examiner notes line 24, "a polyurethane polymer containing at least two isocyanate groups or..." is the first of the list of alternatives which is a reactive polyurethane containing free isocyanate groups. The examiner further notes page 6, lines 17-21 which requires only reacting the polyol with an at least diisocyanate to form the prepolymer which falls within the scope of the instant claims. There is no second stage here which is not the same as the applicant's intended further use of the instantly claimed prepolymer. Thus, "consisting" does not differentiate over the reference since the reference teaches the instantly claimed method. Other processes of the reference do use two stages but these are not sections cited as anticipating the instantly claimed method and the applicant's arguments do not address those methods of the sections cited above which do fall within the scope of the instant claims. The ordinary skilled artisan does consider the two different NCO of the 2,4' MDI as being different NCO groups due to their different reactivities and chemical nature. There is no probative evidence that only one of the types of NCO will react with the OH of the polyol to support the applicant's argument in this regard. It is not seen that the reaction rates of the different NCO groups are so different that in the huge number of functional groups in a real life reaction both types of NCO do not react with OH. Bolte does not require "two different isocyanates" as argued by the applicant. Bolte merely requires "different isocyanate groups", e.g. page 8, lines 1-2. The NCO groups of the instantly claimed and the disclosed isocyanate 2,4' MDI are in fact different as would be understood by the

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ordinary skilled artisan. Note page 15, line 15 et seq. in this regard. Applicant's arguments regarding page 7, lines 10-22, page 8, line 26 to page 9, line 30 is noted but these sections are not the entirety of the disclosure of the reference nor the entirety of the sections cited above. See, for example, page 7, lines 23-30 and page 14, lines 20-26 which makes the instantly claimed intermediate.

The applicant's arguments have been fully considered but are not commensurate with the above rejection and the disclosure of the cited prior art and are not persuasive for the reasons stated above. This rejection is therefore maintained.

5. Claims 1-2, 4-18, 21, 24, and 28-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 00/05290 Bolte et al., translation supplied by applicant referenced.

Bolte discloses a polyurethane prepolymer made by the instantly claimed processes at page 5, lines 3-7 which falls within the scope of the instant claim 12 when combined with page 17, lines 1-15; page 6, lines 10-30, which encompasses the instantly claimed viscosities of claim 2 considering viscosity will go down as temperature goes up and considering the common molecular weights of the instant claims and the prior art noted below which is indicative of viscosity by definition of viscosity average molecular weight; page 7, lines 5-9 which is expected to give the parameter of the instant claim 2 inherently based on the definition of viscosity average molecular weight and the fact that the other requirements of claim 2 are met and lines 10-30; page 8, lines 1-30, particularly 21-30 which broadly encompasses the instantly claimed process of making a polyurethane with free isocyanate groups; page 9, lines 1-5, which encompasses the instantly claimed NCO:OH ratio and this stage of the method of the reference reads on the method steps of the instant claim 1, which are not prohibited from later reactions in

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other stages as is clear from the instant claims which later react the prepolymer with other components; page 10, lines 1-30, particularly 6-8, which encompasses the instantly claimed NCO:OH ratios, lines 9-30, which encompasses the instantly claimed diols and their molecular weights as do page 11, lines 1-30, particularly 6-10; page 12, lines 1-30, particularly 2-3; page 13, lines 1-30, particularly 1; page 14, lines 1-19, of which these polyols fall within those of the instant claims 1, 4, 10, 14-17, 21, 24, and 28-31 (note that the mixtures encompass the "additional" polyols or polymeric compounds of claims 21 and 24); page 14, lines 20-30; page 15, line 7, which discloses the instantly claimed diisocyanate with sufficient specificity so as to anticipate its use, which is particularly emphasized because it is also an asymmetrical diisocyanate as is clearly preferred for use at lines 15-17 and 18-22; page 19, lines 22-27; page 20, lines 10-15 which falls within the scope of the NCO:OH ratios of the instant claims 1, 8, 18, 24, and 29-30, lines 17-30 which falls within the scope of the instant claims 11 and 21; page 21, lines 1-30 particularly 7-26 which falls within the scope of the instant claims 5-7, 9, and 21; page 25, lines 4-30 which encompasses the instantly claimed amounts of monomeric isocyanates also; page 26, lines 1-12 and 21-26; and the remainder of the document. The second stages disclosed throughout the above cited sections fall within the scope of the instant claims requiring further reaction of the prepolymer with further components including the instantly claimed NCO:OH ratios for these method steps. The above discussed parameters are the same as claim 1 and therefore must give the limitation of claim 13 and 32-33 inherently considering the molecular weights of the polyurethanes and their NCO content based on the ratios of polyols to polyisocyanates used. Applicant's argument regarding free NCO groups is noted but the reference teaches the preparation of prepolymers having NCO groups throughout the disclosure



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of Bolte, e.g. page 6, lines 17-21, page 7, lines 5, 10-16 and 23-30 with particular emphasis on lines 27-30; page 8, lines 1-2, particularly lines 21-25 noting "at least equimolar" as it is understood that an excess is required to give NCO terminal groups but too much excess will give too much free monomer, which Bolte clearly doesn't desire and the stoichiometry required of the paragraph bridging pages 7-8 indicates clearly that no or little free monomeric isocyanate should remain. It is noted that the instant claims recite no closed language and therefore include the additional steps of the reference. It is also noted that the claims of the 112 above, e.g. 19-20 and 23-24 appear to encompass further reacting the isocyanate terminated component with further active H groups which is the additional reaction step of Bolte. In any event, the intermediate product of Bolte which is the reaction product of polyisocyanates of the instant claims, polyol, the instantly claimed NCO:OH ratio and which has free NCO groups, i.e. prepolymer, falls within the scope of the instant claims as does the further reaction of this intermediate with further polyol. The remainder of the reference cited above further clarifies these points. The applicant's arguments are not commensurate in scope with the instant claims and the proper reading of the disclosure of Bolte.

"Consisting of" is noted in the instant claims. The instantly claimed product is not going to not be further processed. It is intended by the applicant to be further reacted, perhaps at a later time. Thus, "consisting of" cannot be taken as meaning that nothing is ever done to the product resulting from the claimed process ever. Note the first page of the applicant's specification, lines 8-11 for example. The reference performs the instantly claimed process steps in a manner consistent with the instantly claimed "consisting of" though they later perform other steps. The result of the process noted above is a "reactive polyurethane containing free isocyanate groups"

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as can be seen from the above cited sections. It is not seen that the reference requires two steps. The applicant's reference to page 5, lines 24-30 is noted but the examiner notes line 24, "a polyurethane polymer containing at least two isocyanate groups or..." is the first of the list of alternatives which is a reactive polyurethane containing free isocyanate groups. The examiner further notes page 6, lines 17-21 which requires only reacting the polyol with an at least diisocyanate to form the prepolymer which falls within the scope of the instant claims. There is no second stage here which is not the same as the applicant's intended further use of the instantly claimed prepolymer. Thus, "consisting" does not differentiate over the reference since the reference teaches the instantly claimed method. Other processes of the reference do use two stages but these are not sections cited as anticipating the instantly claimed method and the applicant's arguments do not address those methods of the sections cited above which do fall within the scope of the instant claims. The ordinary skilled artisan does consider the two different NCO of the 2,4' MDI as being different NCO groups due to their different reactivities and chemical nature. There is no probative evidence that only one of the types of NCO will react with the OH of the polyol to support the applicant's argument in this regard. It is not seen that the reaction rates of the different NCO groups are so different that in the huge number of functional groups in a real life reaction both types of NCO do not react with OH. Bolte does not require "two different isocyanates" as argued by the applicant. Bolte merely requires "different isocyanate groups", e.g. page 8, lines 1-2. The NCO groups of the instantly claimed and the disclosed isocyanate 2,4' MDI are in fact different as would be understood by the ordinary skilled artisan. Note page 15, line 15 et seq. in this regard. Applicant's arguments regarding page 7, lines 10-22, page 8, line 26 to page 9, line 30 is noted but these sections are not

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the entirety of the disclosure of the reference nor the entirety of the sections cited above. See, for example, page 7, lines 23-30 and page 14, lines 20-26 which makes the instantly claimed intermediate.

It would have been obvious to one of ordinary skill in the art at the time of the instant invention to use the instantly claimed methods and ingredient combinations to make the prepolymer and compositions of the instant claims because they are encompassed by the reference and would have been expected to give the properties disclosed by Bolte. There is no showing of unexpected results stemming from any differences between the cited prior art and the instant claims in a manner commensurate in scope with the instant claims and the cited prior art particularly with regard to the wide range of polyols encompassed by the instant claims and the cited prior art, their molecular weights, the NCO:OH ratios encompassed by the instant claims and the cited prior art, and the broad range of reaction conditions encompassed by the instant claims and the cited prior art which are expected to widely vary the properties of the polyurethanes made.

The applicant's arguments have been fully considered but are not commensurate with the above rejection and the disclosure of the cited prior art and are not persuasive for the reasons stated above. This rejection is maintained for the reasons cited herein.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

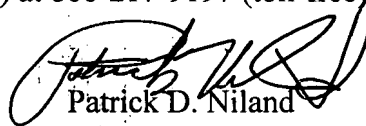
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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick D. Niland whose telephone number is 571-272-1121. The examiner can normally be reached on Monday to Thursday from 10 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Patrick D. Niland  
Primary Examiner  
Art Unit 1714